UK

SOLID FUEL STOVE

(REGA-) LHS

40.4 N
50.4 N
60.4
75.4 N
90.4 N
105.4 N

OPERATING MANUAL

WITH INSTALLATION INSTRUCTIONS

Some installation advice given in this instruction manual would, if followed, result in an installation that may not meet UK building regulations. A supplementary instruction manual is provided to give correct advice for installations and use within the UK.

Issued 01-2015

LOHBERGER®

Natural Heating. Naturally Lohberger.

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Legend

Important information in this manual is indicated by the following symbols:

NOTE: Instructions for correct use of the stove. It is the operator’s responsibility to follow these instructions.

CAUTION: This symbol refers to particularly important notes.

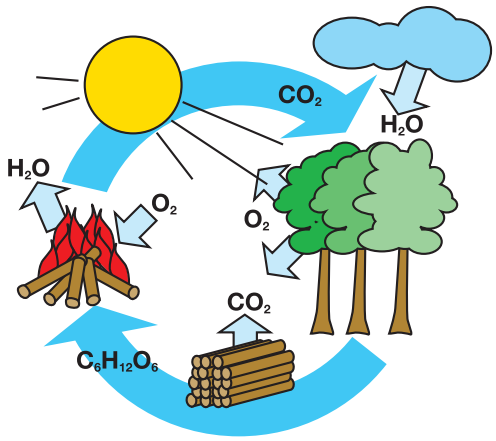
DANGER: This symbol indicates important rules of conduct for avoiding injury or material damage.

Foreword

You have chosen with the solid fuel stove line LHS a quality product from Lohberger.
In addition to the elegant and timeless design, we focus on an advanced combustion technology, high quality materials as well as a perfect finish.
A proper handling and care are essential for a trouble-free operation and a long life. So please read these instructions carefully. We are convinced that this appliance will give pleasure to you.

Your **LOHBERGER Heiz + Kochgeräte Technologie GmbH**

Our contribution towards climate protection



During combustion, wood only emits the same amount of CO2 that it previously held as a tree. It makes no difference whether the wood burns or rots in the forest.
Thus heating with wood corresponds to the natural biological cycle.

1. Important standards / guidelines

When installing and starting-up the appliance, observe the local fire protection laws and building regulations as well as the following standards /regulations:

ÖNORM (Austrian Standard) M7550
Central heating boiler up to 100 °C: definitions, requirements, tests, marking of conformity

ÖNORM (Austrian Standard) M 7510 / 1
Guidelines for the inspection of central heating systems.

ÖNORM (Austrian Standard) M 7510 / 2
Guidelines for the inspection of central heating systems; standard values.

ÖNORM (Austrian Standard) B8130
Safety devices.

ÖNORM (Austrian Standard) B8131
Closed water heating systems; safety requirements.

ÖNORM (Austrian Standard) B8133
Safety requirements for water heating systems.

DIN 4751 Part 1
Safety devices for heating systems with flow temperatures of up to 110 °C (120 °C in preparation)

DIN 4751 Part 2
Safety devices for heating systems with flow temperatures of up to 110 °C (120 °C in preparation); open and closed water heating systems up to 349 kW (300000 kcal/h) with thermostatic safety device.

DIN 4751 Part 4
Safety devices for heating systems with flow temperatures of up to 120 °C; closed water heating system with static heights exceeding 15 m or rated heat output over 350 kW.
DIN 1988: Drinking water supply systems on building sites (technical requirements).

ÖNORM (Austrian Standard) EN 303-5
Boiler for solid fuels, charged manually and automatically up to 300 kW. Definitions, requirements, testing and marking of conformity

TRVB H118
Technical specifications regarding preventive fire protection for automatic wood-fired heating systems.

2. Important instructions prior to installation and start-up

Before connecting the appliance to the chimney, inform the local qualified chimney sweep

Please read the information in this manual carefully before you install or start up your appliance for the first time.

Failure to do so causes the warranty to become null and void Keep this operating manual in a safe place. Should it be lost, we will be happy to send you a new copy. You will find important information in it as regards safety, use, proper care and maintenance of the appliance, so that you can enjoy your appliance for a long time.

If there are any queries please contact our technical customer service.

The stove must not be modified, except with original stove components, provided and tested by us or by work performed by our service technicians.

With appliances equipped with heating insert the proper dissipation of the heat output to the hot water system must be ensured (radiator/reservoir).

CAUTION: The chimney may have become obstructed when the stove is heated up again after it has been out of use for an extended period of time. Before re-starting the stove, have the chimney inspected by a specialist chimney sweep).

CAUTION! CHILDREN PLAYING!

The appliance becomes very hot when it is in operation. Make sure that children are never in the immediate vicinity of the appliance when it is in use.

CORRECT INSTALLATION AND START-UP

The safety of the appliance can only be assured if it has been installed by a trained technician, in compliance with the standards and regulations applicable at the place of installation. Make sure that the requirements of the applicable laws and standards as well as the local fire protection laws and building regulations are adhered to. Please consult the local qualified chimney sweep regarding the assessment of building and technical conditions.

When operating the stove, **make sure that there is an adequate supply of fresh air in the room where the appliance is located.** An air exchange of at least 0.8 times per hour by means of a permanent and secure ventilation of the room must be ensured. If the windows and doors are tightly sealed or if other appliances such as extractor hoods, tumble driers, ventilators etc. draw air from the room where the appliance is located, it may be necessary to provide fresh combustion air from outside. The inlet apertures for combustion air must not be closed.

For the first 2 to 3 days run the stove with a low output. This allows the stove lining to dry out slowly and as a result it extends the service life significantly. During the first few days of operation, expansion cracks may form in the fireclay-cladding. However, this does not impair the functioning of the appliance.

CORRECT OPERATION

Correct operation, in compliance with the installation instructions and with the operating manual as well as with the instructions regarding safety and environmental protection.
Bear in mind that the appliance is not childproof (doors, etc.) and therefore it must not be operated by children or other people who are not authorised or trained.
If the appliance is not installed properly and if the instructions (as stated in the technical documentation and operating manual) regarding the start-up and operation of the appliance are not followed, all warranty claims will become null and void.
Open the start-up flap only when heating up the stove, keep the combustion chamber door and ash door closed at all times. Avoid overheating the stove (e.g. red-hot steel hotplate). The warranty does not cover any resulting damage.
Only use suitable fuels by choosing environmentally sustainable, high-quality and dry fuels (see fuels on page 17).
Only operate our central heating stoves using a **return flow temperature boost** (thermal valve, motor-driven mixing valve). Faults caused by failure to follow this instruction are excluded from the warranty cover.

CHIMNEY REQUIREMENTS FOR HEATING SYSTEMS

Before starting up the appliance for the first time, the local qualified chimney sweep must certify the suitability and readiness for operation of new or existing chimneys by a declaration of conformity.
The owner must ensure that the chimney is free of obstructions (no coverings or blockages). Please point out existing faults and /or alterations in the chimney and the heating system. Because of low exhaust gas temperatures when the seasons change the chimney must be leak-free and humidity-resistant. Make sure that flue and exhaust gas can escape freely to the outside.

REGULAR CLEANING AND MAINTENANCE

To ensure the functionality and efficiency of the appliance, regular maintenance and cleaning work must be carried out on every fireplace and all the connected system components (e.g. chimney, connecting ducts, etc.). Please observe the instructions regarding maintenance and cleaning in this operating manual. Your chimney sweep will also be happy to clean the fireplace. Only clean and properly adjusted appliances work efficiently.

Only install genuine spare parts provided by your local specialist dealer or by our company.
Wearing parts (e.g. seals), components exposed to high thermal stress (fireclay, cast-iron parts) or broken stove parts should be replaced or exchanged as soon as possible.

Correct procedure in the event of chimney fires:

Correct procedure in the event of chimney fires:
If the fireplace, connecting duct and chimney are not regularly cleaned or if unsuitable fuels are burned, the deposits may ignite, causing a chimney fire.
Keep the stove doors closed and turn the air regulators to position „0“. Move away combustible parts from the chimney. UNDER NO CIRCUMSTANCES should you attempt to extinguish the chimney fire by applying water. The resulting **sudden steam pressure is so high that the chimney could burst.**

Call the fire brigade via the emergency phone number.

3. Safety instructions

CAUTION! CHILDREN PLAYING!
Bear in mind that certain components of the appliance (handles, filling door, flue pipe, etc.) become very hot when it is in operation and therefore represent a burn hazard. Make sure that children are never in the immediate vicinity of the appliance when it is in use.
Burn hazard!

During installation and operation

- When installing the appliance, follow each of the instructions of the operating manual.
- Pay attention to the safety gaps when installing the appliance.
- Check the flue pipe connection for leakages.
- Check the appliance for damage (e.g. glass items).
- Make sure that you never add more firewood than required for the rated heating output.
- When adding more firewood, open the door slowly and first allow the flue gas to escape up the chimney. By doing this you prevent the flue gas from entering the room.
- Do not obstruct the appliance during heating as this could lead to an explosion.

Cooking surface

- Very hot fat and oil can ignite spontaneously; prepare food with fat and oil such as potato chips only under supervision. Never use water on burning fat and oil. Put the lid on and remove the pot from the hot cooking surface.
- Do not place combustible or ignitable objects on the cooking surface which could constitute a danger when the appliance is started.

Oven

- There is a risk of burning when working with the hot oven. Use oven cloths, heatproof gloves or similar.
- Do not store items in the oven that could be hazardous when the appliance is started.
- Take care when opening the oven door. Do not bend over the opened oven door immediately. A rush of hot air or steam will escape through the open door.
- Always fully close the oven door when preparing food inside the oven.

4. Transport / Unpacking / Inspection

Report visible faults to the supplier immediately. Later claims for damages cannot be entertained.

Figure 1

The packaging of your appliances provides good protection against damage in transit. Nevertheless, damage to the appliance and fittings cannot be entirely excluded.
Therefore carefully check the appliance for completeness and possible damage in transit after unpacking.

Transport options

TRANSPORT ON PALLET:

Transport the appliance on the pallet to the installation site. Remove fuel drawer and hotplate. Remove transport securing safety devices and lift the appliance from the pallet.

TRANSPORT WITH A TROLLEY:

Transporting sideways on a trolley is possible on the firebox side (*Figure 1*). For this, remove the fuel drawer, hotplate and transport securing devices and transport the appliance to the installation site using the trolley.

5. Appliance installation

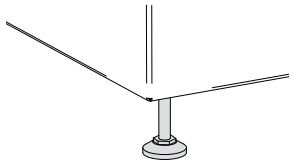


Figure 2

With levelling feet screwed out, move the stove carefully so as not to damage the appliance or the floor covering.

Installing the appliance

1. Adjust stove height if necessary (optional equipment will be required!)
2. Connecting the flue pipe (if necessary connecting the heating system) requires a specialist following the instructions of the operating manual.
3. Carefully place the stove right up against the wall.
4. The integrated levelling feet to compensate for an uneven floor.

Appliance height (does not apply to REGA/LHS 60)

The 4 levelling feet compensate for uneven floors and allow for height adjustment to other appliances or kitchen attachments (*Figure 2*). To do this, use the open-end wrench S13.
To compensate for the gap between stove base and kitchen floor resulting from the adjustment to the height, a stainless steel panel is available as optional equipment.

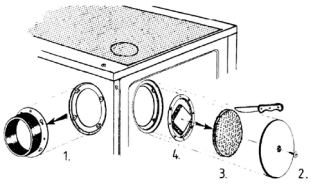
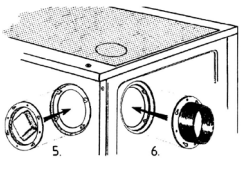


Figure 3



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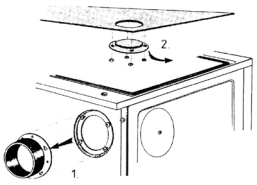


Figure 5

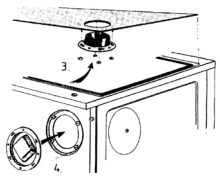


Figure 6

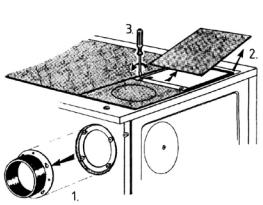


Figure 7

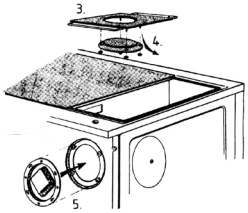


Figure 8

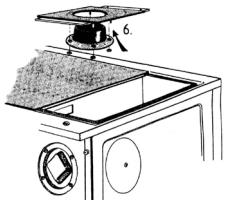


Figure 9

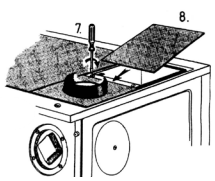


Figure 10

Flue Connection Conversion

The series stoves are delivered with a screwed-on flue connecting piece in the rear panel and can be directly connected to the chimney through an appropriate connecting pipe.

CHANGING THE FLUE CONNECTION TO THE SIDE *(Figure 3-Figure 4)*

1. Remove flue connecting piece from the rear panel
2. Screw off outer cover from the side panel
3. Cut out insulation material
4. Screw off inner cover
5. Screw the included cover (without centre hole 1) onto the rear panel
6. Screw the flue connecting piece onto the side

CHANGING THE FLUE CONNECTION TO THE TOP (LHS 40-75)

(Figure 5-Figure 6)

1. Remove flue connecting piece from the rear panel
2. Screw off the cover on the burner
3. Screw the flue connecting piece onto the burner
4. Screw included cover (without centre hole) onto the rear panel

CHANGING THE FLUE CONNECTION TO THE TOP (LHS 90-105)

(Figure 7-Figure 10)

1. Remove flue connecting piece from the rear panel
2. Remove front cooking plate section (or hot water insert)
3. Remove back cooking plate section
4. Screw off the cover from the cooking plate section
5. Screw included cover (without centre hole) onto the rear panel
6. Screw on flue connecting piece
7. Replace cooking plate section with flue connecting piece and screw on
8. Replace front cooking plate section (or hot water insert)

CAUTION!
Depending on the type of operation, the temperature in the oven can reach up to 400 °C.

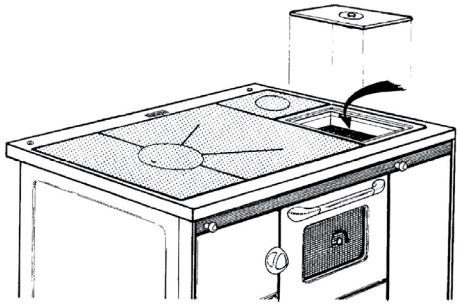


Figure 11

When heating there must always be water in the hot water insert!

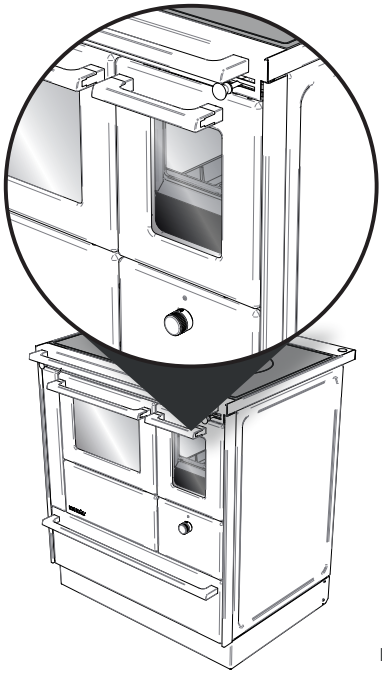


Figure 12

Oven

The oven has 2 shelf positions and is equipped with a plain shelf and oven grid shelf. It is fully enamelled inside and therefore easy to clean. See instructions for this on page 16. After cleaning, the oven door should be left open a few minutes for airing.
The oven must absolutely be preheated for baking and broiling/roasting. A brisk fire is required to maintain an oven temperature of around 250 degrees C. Dry, seasoned beech wood is very well suited to this purpose.

Oven Thermometer

The thermometer in the viewing glass of the oven door has a reading range of approximately 20 – 400 degrees C. The temperature marks are approximations for baking and broiling/roasting and can deviate slightly from case to case.

Stove Cover (Optional, not available for REGA)

The stove cover serves to cover the cooking surface when the stove is not in use. In this case the flue connection must be connected at the rear or sides (not at the top!).The stove cover is mounted by inserting its two hinge pins into the hinge casings on the stove frame back.
The stove cover may not be closed while the stove is in operation!

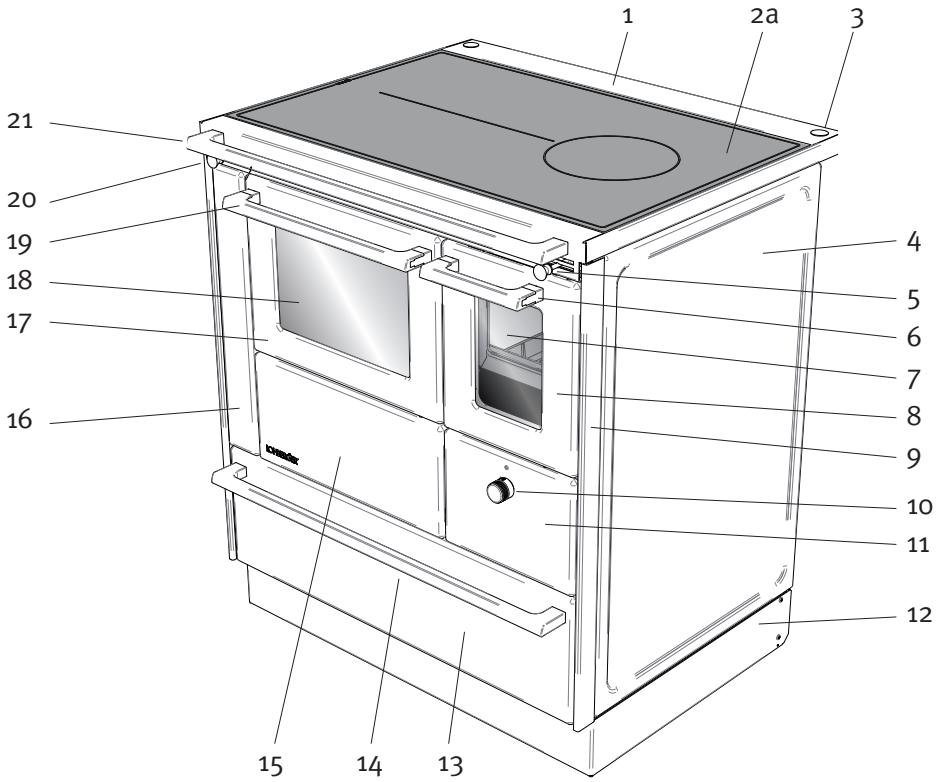
Hot Water Insert (Optional, not available for REGA and LHS 40/50)

LHS 90 and 105 models can be equipped with a stainless steel hot water insert. Capacity between 12 and 16 liters, depending on the stove type.
Fill up only to 4 cm below the rim (*Figure 11*)**!** This prevents water from boiling over the edge and splashing the cooking plate, thereby causing a lot of steam. Warning: When heating there must always be water in the hot water insert!

Firebox door with viewing window (optional, not available for REGA)

The appliances of the series LHS can be equipped with an integrated viewing window in the firebox door (*Figure 12*).

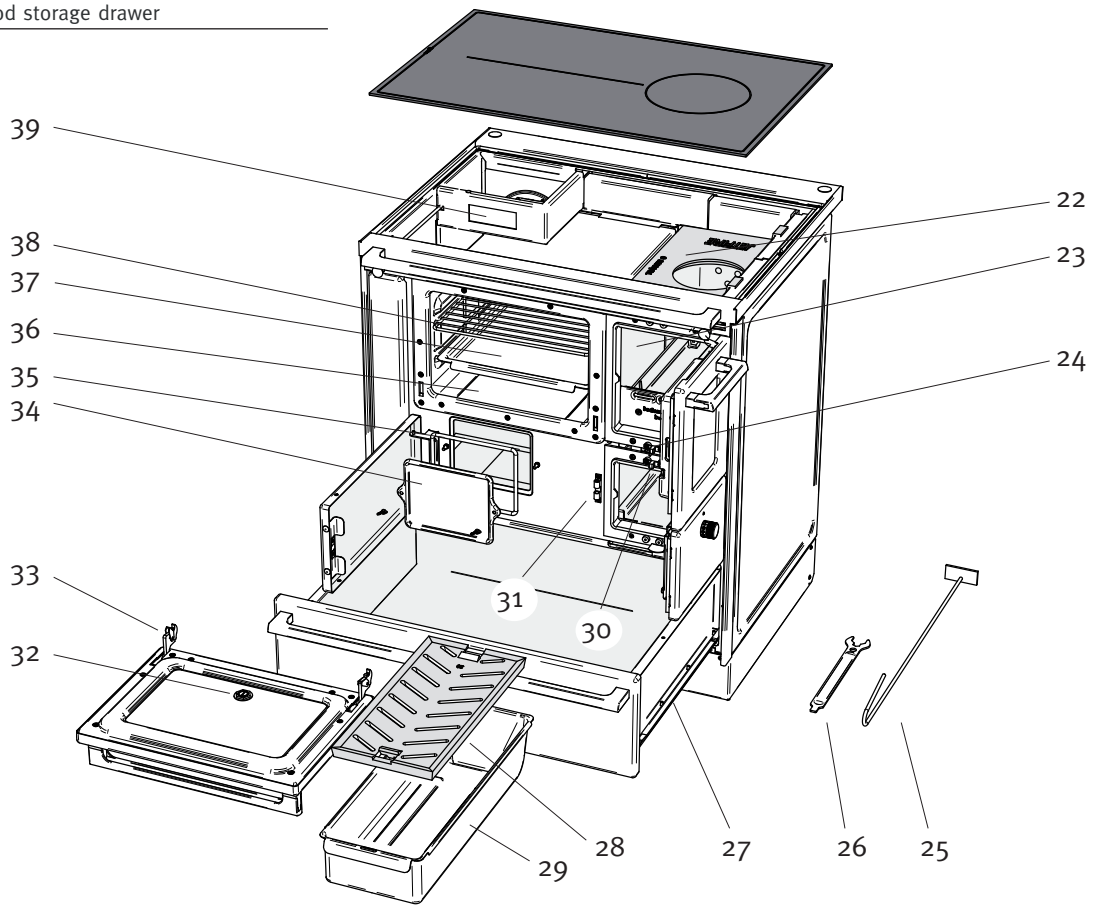
The firebox door with double glazing allows you to enjoy the beauty of real flames and therefore heating with wood truly becomes an amazing experience.



1	Stove frame stainless steel
2a	Cooking surface (Ceran, extra charge)
2b	Cooking plate oven (standard)
3	Stove cover hinge
4	Sidewall
5	Button for damper
6	Fire door handle
7	Fire door viewing window (extra charge)
8	Fire door panel
9	Stove edge strip
10	Control knob for primary air
11	Ash door panel
12	Base (adjustable)
13	Wood storage drawer

14	Drawer grip
15	Cleaning door
16	Side panel
17	Oven door panel
18	Oven viewing window
19	Oven door handle
20	Button for grate riddling
21	Hand rail set (extra charge)
22	JETFIRE flame convergence plate
23	fireclay coating combustion chamber
24	Combustion air slider secondary air
25	Ash scraper
26	All-purpose wrench

27	Drawer guide rail
28	Cast-iron grate
29	Ash drawer
30	Ball latch
31	Ball latch
32	Oven thermometer
33	Oven door hinge
34	Cleaning access cover
35	Access cover rope sealing
36	Oven with oven frame
37	Baking tray
38	Grid
39	Start-up flap



7. Installing the appliance

Seek the advice of the local qualified chimney sweep before installing the appliance.
When installing the appliance, the technical regulations applicable at the installation site as well as country-specific regulations such as the applicable building regulations, local fire protection laws and/or additional regional regulations must be observed.

We strongly recommend that the connection and the installation work (in the case of self-installation the final inspection and approval) are always carried out by a certified specialist

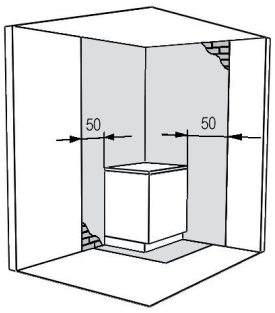


Figure 13

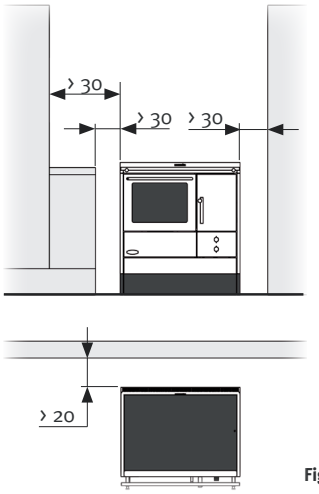


Figure 14

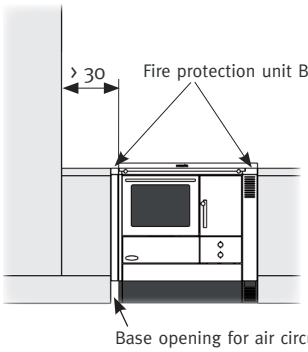


Figure 15

The LOHBERGER fire protection units type **BSE** are only tested in conjunction with LOHBERGER stoves of the series LHS.

Load-bearing capacity of the floor

Prior to installing the appliance, make sure that the substructure of the floor is suitable for the weight of the appliance. Ensure a level and vibration-free positioning of the appliance.

Floor pad as a protection against flying sparks

With combustible floors (timber flooring, synthetic materials, fitted carpet, etc.), the use of a floor pad made of steel, safety glass, tiles or similar non-combustible materials is strongly recommended According to fire protection laws, the following minimum clearances from the combustion chamber opening must be maintained: 50 cm to the front, and 30 cm each to the left and to the right.

Safety clearances

Maintain sufficient safety clearance to combustible items (wooden panelling, furniture, curtains, etc.) around the stove. The walls in the immediate vicinity of the stove must be fireproof over the full height of the walls and over a width of at least 50 cm to either side and to the front beyond the fireplace (*Figure 13*).

The safety clearance from items to be protected (e.g. combustible walls, walls with combustible components, tall kitchen cupboards and load-bearing walls made of reinforced concrete) is at least 20 cm backwards and 30 cm lateral. (*Figure 14*).

When installed next to combustible materials or in a fitted kitchen or next to an electric cooker or any other appliance, a fire protection unit (fitted as standard or as an addition) must be provided. (*Figure 15*)

In this case the maximum height of the adjacent fixtures is the stove height. Fixtures exceeding the height of the stove must be at a distance of at least 30 cm.

Overhead kitchen cabinets

For stoves with a **steel cooking plate** it is not permissible to install overhead cabinets above the stove because the hotplate can be opened (cooking opening cover).

For stoves with a **glass ceramic cooking surface**, the distance must be at least 75 cm and there must be adequate rear ventilation of the overhead cabinets to avoid heat being trapped.

Safety clearances flue gas pipe

When installing the flue gas pipe, adhere to the following minimum distances from combustible building materials:

- clearance to wall 20 cm
- clearance to ceiling 40 cm.

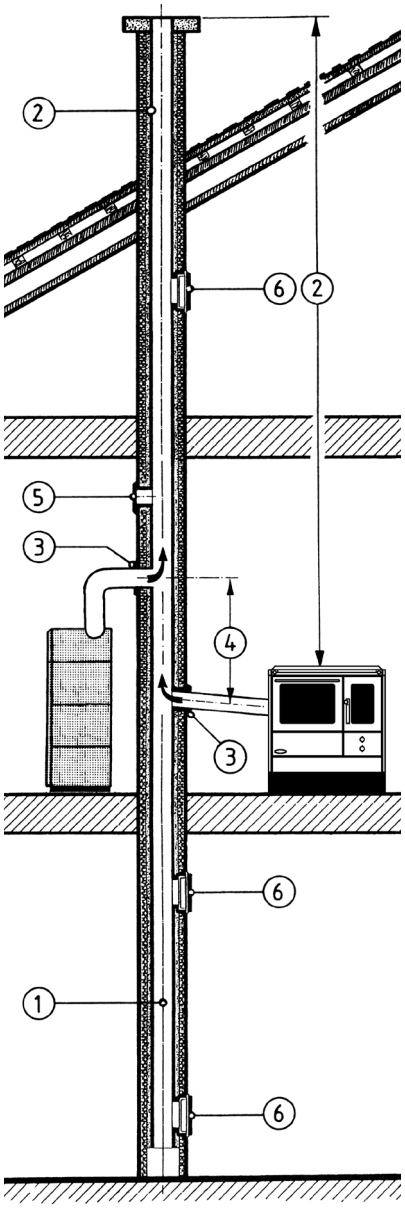


Figure 16

Schematic diagram flue gas connection (*Figure 16*)

Trouble-free and efficient operation is assured if the following conditions for an optimum combustion are fulfilled:
① Adequate condition of the chimney: good thermal insulation, smooth inner surface, no leakages
② Correct dimensioning of the chimney: cross section and effective height must be calculated for the intended fuels and loads.
③ Correct flue gas pipe connection: tight, no cross sectional constriction, slightly rising towards the chimney, not projecting into the chimney.
④ For shared-flue systems: maintain a minimum distance of 60 cm.
⑤ Seal unused connection openings with cover lids.
⑥ Keep sweeping and cleaning openings, usually located in the basement or attic storeys, closed at all times. Check seals from time to time and renew if necessary.

The chimney

- When installing the flue gas pipe adhere to the following minimum clearances from combustible building materials: clearance from wall 20 cm, clearance from ceiling 40 cm.
- Design and condition to suit the regulations applicable at the place of installation.
- Prior to connection, inspect for possible faults and defects.
- Effective chimney height of 5 m (from cooking plate to the chimney outlet). If the height is less, the stove must be connected with a vertical flue gas pipe of at least 1 m length. An effective chimney height of less than 4 m is not advisable.
- Uniform, square or round internal cross section, insulated to prevent cooling.
- Chimneys made of pre-fabricated components are preferable.
- Assessment of the entire flue gas system according to DIN 4705 Parts 1 and 2, with shared-flue systems according to Part 3

Connection stove - chimney

The flue pipe is the connection between the stove and the chimney. When installing the flue, please note the following instructions:

- Make sure that the connecting piece can be cleaned (cleaning opening, from the stove-side, etc.).
- The diameter of the flue pipe must not decrease towards the chimney.
- The flue pipe must not project into the chimney.
- Vertically positioned flue pipes must not exceed a length of 125 cm if they are not insulated.
- Horizontal pipe sections must not exceed a length of 100 cm.
- The flue pipe must not descend towards the chimney, but must incline slightly upward.
- The connection between the stove and the chimney must be strong and leakproof. In particular the connection to the masonry of the chimney must be durable and tight.

The necessary discharge pressure (“Chimney draught”)

The negative pressure prevailing in your chimney, measured in Pascal (“Pa”) is a measure of the efficiency of your chimney. The discharge pressure required for your stove is shown in the table “Technical data” on page 25 and on the nameplate of the stove.
With new chimneys you can trust the details (calculations) of the manufacturer; with older chimneys seek the advice of your chimney sweep.

- Insufficient discharge pressure would result in incomplete combustion and consequently in increased formation of soot and tar in the stove and in the chimney.
- Excessive discharge pressure on the other hand would accelerate combustion, lead to high flue gas temperatures (causing damage to the appliance) and greatly increase fuel consumption.

9. Combustion air

The local qualified chimney sweep or your ventilation installer will be happy to provide information about the applicable technical guidelines and requirements for the use of fireplaces in combination with systems for ventilation and extractor hoods.

Negative pressures in the room where the appliance is located (e.g. through ventilation systems, extractor hoods, etc.) may impair the functioning of the fireplace and its safety system and are therefore not permissible.

Operate extractor hoods only with re-circulated air operation. With ducted extractor hoods, an adequate supply of air must be ensured by means of separate safety equipment (e.g. contact switches on the windows, negative-pressure monitoring).

The appliance is dependent on indoor air (open-flued appliance); that means the air required for combustion is drawn from the room where the appliance is located. Therefore the room must be supplied with fresh air from the outside through an air inlet. Provide an opening that is 10-15 cm in diameter in an exterior wall in the room where the appliance is located. Install a protective grating on the outside of the air inlet. In particularly exposed locations it is advisable to provide protection against wind and rain.

If it is not possible to provide an air inlet to the outside from the room where the appliance is located, the opening can be in an adjoining room. In this case the adjoining room must have a permanent connection to the room where the appliance is installed via a ventilation grid. If there are additional heating appliances in the same room, make sure that the air inlets can supply sufficient air for combustion for the operation of all appliances.

As part of the final approval the local qualified chimney sweep must check the entire system for an adequate supply of combustion air.

10. Through-Wall Heating (optional, not available for REGA and LHS 40/50)

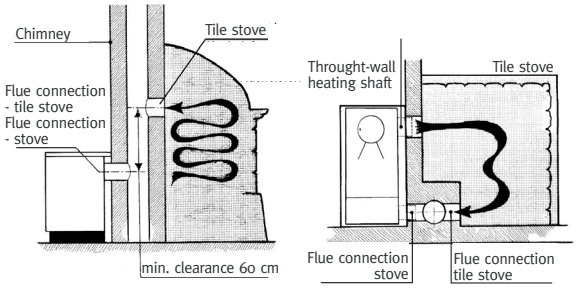


Figure 17

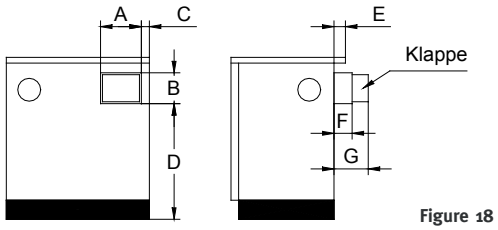


Figure 18

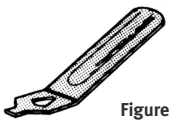


Figure 19

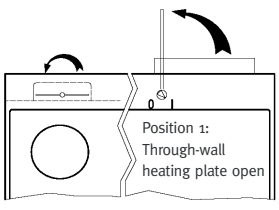


Figure 20

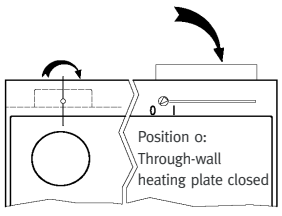


Figure 21

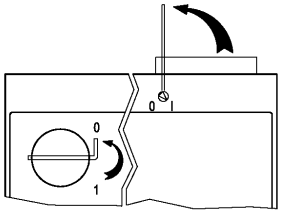


Figure 22

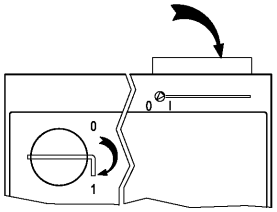


Figure 23

Our LHS stoves can be equipped with a through-wall heating shaft on request. The through-wall heating shaft is always located at the rear of the fire-box, the flue connection can be at the back of the fire-box, at the side or at the top and is to be coordinated with the flue connection of the tile stove. (*Figure 17*). When connecting the through-wall heating and during operation, there are also a few points deviating from the standard stove, which must be observed. Removing the ashes from the grate takes place manually by using the included grate-riddling hook!

Dimensions (*Figure 18*)

	A	B	C	D	E	F	G
LHS 60	153	148	49	612	60	100	150
LHS 75	214	162	42	607	60	95	205
LHS 90	214	162	42	607	60	95	205
LHS 105	214	162	42	607	60	95	205

Operating the Through-Wall Heating

Opening and closing the through-wall heating plate takes place with the through-wall heating key from the stove frame.(*Figure 19*).

THROUGH-WALL HEATING WITH FLUE CONNECTION AT THE BACK OR SIDE

Through wall Heating Operation:

Open through-wall heating plate (set to 1 with through-wall heating key). Flue damper is closed automatically! (*Figure 20*)!

Heating and Cooking Operation:

Close through-wall heating plate (set to o with through-wall heating key) Flue damper is opened automatically! (*Figure 21*)!

THROUGH-WALL HEATING WITH FLUE CONNECTION AT THE TOP

Through-wall heating operation

Open through-wall heating plate (set to 1 with through-wall heating key) Close flue damper separately! (*Figure 22*)!

Heating and Cooking Operation:

Close through-wall heating plate (set to o with through-wall heating key) Close flue damper separately! (*Figure 23*)!

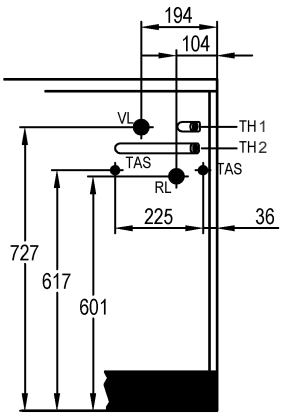
11. Central Heating Insert (optional not available for REGA and LHS 40/50)

Caution! With appliances equipped with heating insert the proper dissipation of the heat output to the hot water system must be ensured (radiator / reservoir).

The connection to the heating appliance as well as the start-up may only be performed by a certified HVAC installer.

Install a drain valve in the lowest part of the water circuit.

For connecting the heating system we recommend our "installation package" which is available as optional equipment.
This package includes a **return flow temperature boost**, an **expansion tank**, a **circulating pump** including a **pump thermostat**, as well as an **automatic bleeding device** which are pre-installed at the rear of the appliance



VL	Heating flow 5/4" (female thread)
RL	Heating return 5/4" (female thread)
TAS	Supply or runoff 1/2" (male thread)
TH 1	Thermostat sensor pump Ø 8,8 mm (interior)
TH 2	Thermostat sensor TAS 1/2" (female thread)

(TAS= Thermal safety valve)

Figure 24

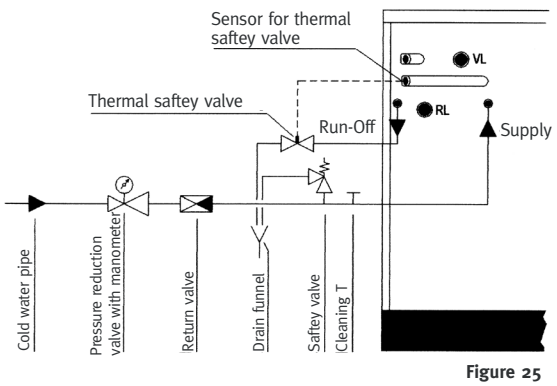


Figure 25

The inside width of the inlet and outlet safety valves of the heat exchanger must not be less than the nominal width of its connection. It must not be possible to close off the inlet pipe manually and the outlet pipe must be free from obstructions.

Please observe the DIN EN 12828 standards when connecting the temperature safety relief valve.

The stove type LHS-Z is equipped with a central heating element (nominal heat output 5 kW) and can be heated with wood. The technical specifications deviating from the standard stove are summarised in the table below.
When connecting the central heating element and during operation, there are also a few points deviating from the standard stove, which must be observed. Removing the ashes from the grate takes place manually by using the included grate-riddling hook!

Heating installation /connection

The boiler is suitable and approved as a heat generator for warm water heating installations with a flow temperature up to 95C° and a permissible excess operating pressure of 3 bar. The following standards are to be observed when installing the stove:
Open units: ÖNORM B 8130 or DIN 4751 part 1
Closed units: ÖNORM B 8131 or DIN 4751 part 2

Further points to be observed:

ÖÖHeating room guidelines, ÖÖNational building regulations, ÖÖLocal building regulations, ÖÖCommercial and fire police regulations, ÖÖEnvironmental protection regulations, ÖÖRegulations of the local electric utility company.

A trial heating must be carried out after completion of the connecting work, during which all control and security instruments are to be adjusted and checked for proper functioning. The assembly, installation, finetuning and initial operation with the trial run must becarried out according

Return By-Pass Temperature Valve

Too low operating temperatures, i.e. flow and return temperatures that are too low, have a significant detrimental influence on the life of the heating furnace. When the water dew point is not attained, condensation water, with more or less aggressive chemical components that accelerate corrosion, forms on the surface of the heating furnace. Therefore care must be taken that the return temperature of the heating furnace does not drop below 60 °C during continuous running.
Temperatures falling below the dew point primarily occurs in low-temperature heating installations (return temperatures down to below 25 °C), in installations without a mixer, in the case of extreme light load operation during changes in season and in constant light load operation caused by a furnaces that is dimensioned too large.

Connecting the Thermal Safety Valve

The heat exchanger serves to protect the furnace from overheating during a pump standstill and may not be used for preparing water for domestic use! The safety mechanisms must still be accessible after the installation. The drain/outlet must be visible for checking the proper functioning of the thermal safety valve, therefore use the runoff funnel! (*Figure 25*)
A function check of the thermal safety valve must be carried out at least once a year. To do this, the red cap must be pressed against the valve and water must flow into the runoff funnel. Should the thermal safety valve drip, then the seal and valve seat must be cleaned. The calcification status of the safety devices must also be checked at least once a year.

Expansion tank

If the boiler hot-water circuit is not directly connected to a heating circuit with integrated expansion tank, or if it can be disconnected from this circuit, a separate expansion tank (type-approved) is required. The installation and the calculation of the dimensions of the expansion tank must comply with DIN EN12828 and DIN EN13831. The expansion tank must be installed in rooms that are protected from frost. For further details (e.g. maximum operating temperature, etc.) refer to the information given by the manufacturer.

Safety valve

To prevent excess pressure, a pressure-relief safety valve must be installed. The open end of the blow-off pipe must be visible, therefore use a drain funnel.

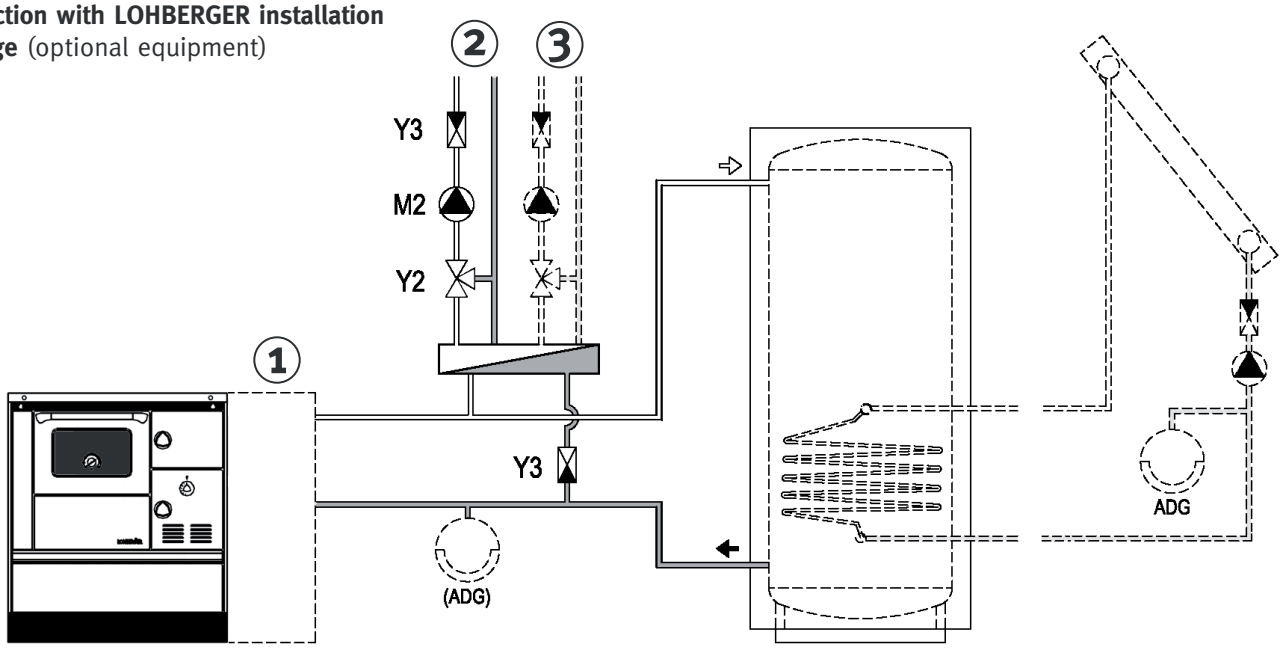
Automatic air bleed

At the connecting bend of the boiler flow pipe an automatic air bleed unit must be provided to ensure proper bleeding of the boiler and the heating system.

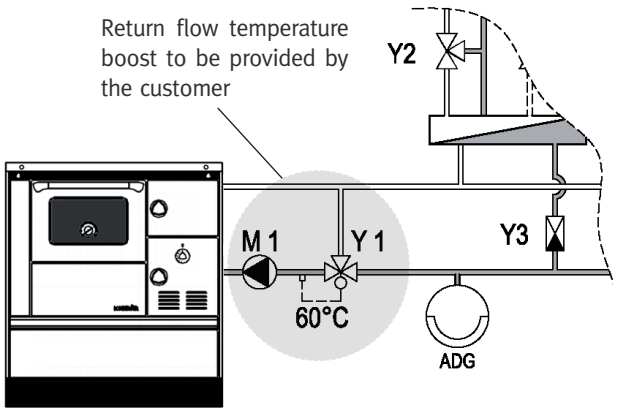
Example of connections

The following shows schematic diagrams of a heating system. Isolating devices, air bleed units and safety devices are not included. They are to be understood as non-binding examples and are not a substitute for accurate planning that takes account of the customer's requirements and hydraulic and safety requirements.

Connection with LOHBERGER installation package (optional equipment)



Connection without LOHBERGER installation package



Explanation of symbols:

1	Installation package Integrated return flow temperature boost Circulating pump, Automatic air bleed unit Temperature safety relief valve
2	Heating circuit
3	Additional heating circuit or boiler load circuit, if necessary
Y1	Three-way thermal valve
Y2	Three-way mixer
Y3	Check valve
M1	Circulating pump for filling the reservoir
M2	Heating circuit pump
ADG	Expansion tank

12. Boiler (optional not available for REGA and LHS 40/50)

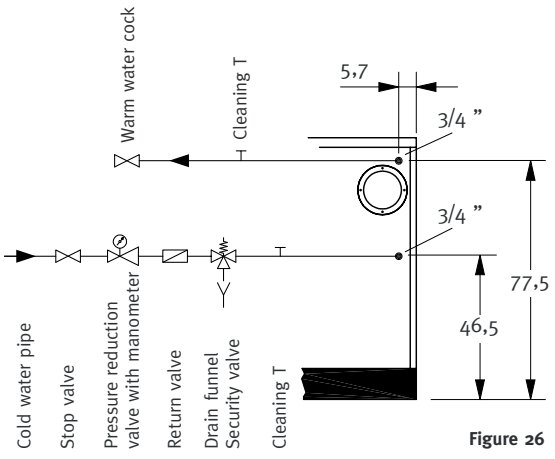


Figure 26

The LHS 90 and LHS 105 can be equipped with a 12- or 16- litre capacity, galvanised boiler on request. The cold and hot water connections (each 3/4") are located on the back of the stove. *(Figure 26)*.

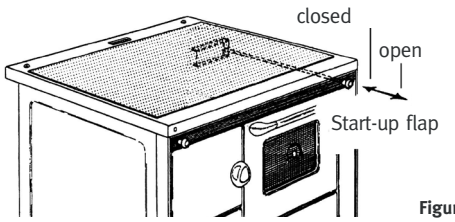


Figure 27

The heating damper must only remain open during the initial heating phase. If the heating damper remains open during heating operation, this will overheat the stove and damage stove components. A heating damper maintained in the open position will also increase fuel consumption.

The short flue gas ducts of the appliances LHS 40 and 50 eliminate the need for a start-up flap.

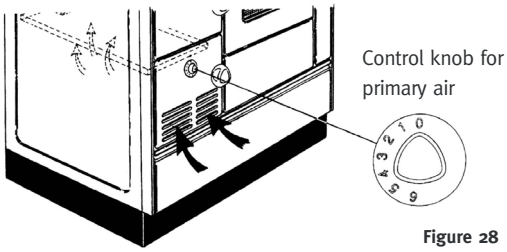


Figure 28

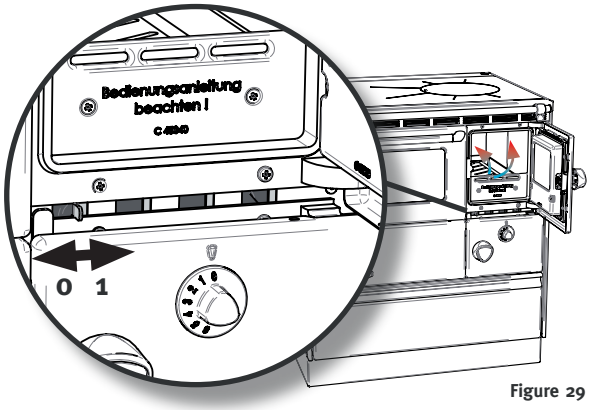


Figure 29

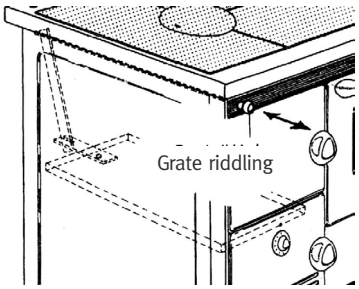


Figure 30

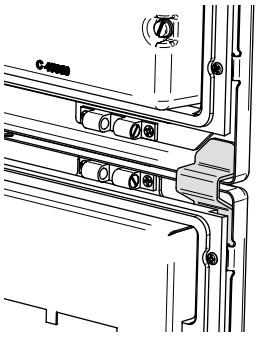


Figure 31

Equipment included

To ensure a safe operation of the appliance, a protective glove and a multi-purpose wrench are included in the delivery.

Start-up flap

The knob located above the oven door operates the damper. Pulling out the knob = damper opens, pushing in the knob = damper closes. (*Figure 27*)
The damper may only be open during the heating-up phase. Overheating results from the damper being left open during the heating operation and can damage stove parts. In addition, an open damper leads to increased fuel consumption.

Air control

The LHS appliance is fitted with an automatic output controller. This device serves to "restrict" the supply of combustion air; but this has only a limited effect on the output. It is definitely not suitable for compensating an excess of fuel. A certain amount of fuel requires a certain amount of oxygen for optimum combustion. If the wood is supplied with less air than is required for clean and efficient combustion, less energy is generated in the appliance (protecting the appliance to a great extent from overheating) – the unused "wood gas", however, escapes through the flue.
The result: low efficiency and high environmental load.
Remedy: load the stove only up to the recommended fuel level.

Primary air control

The supply of the primary air required for combustion is controlled with the rotary knob below the firebox door (Figure 21). This determines the rate of burning and therefore the heat output of the stove.
In position "0" the controller is closed, no combustion air is supplied. In position "1" minimum air supply is provided; select this position for slow-burning operation. Turning the rotary knob to position "6" means maximum air supply, necessary especially during the heating-up phase.
Air settings see Table page 17.

Secondary air control

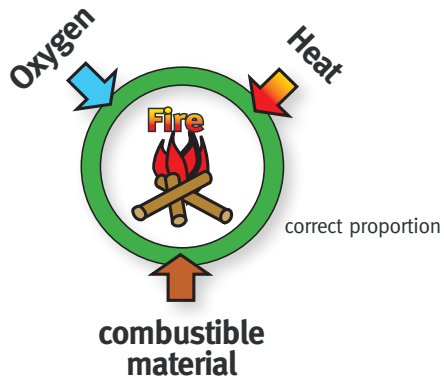
The supply of secondary air (combustion air flowing over the fuel from the top) produces combustion that matches the fuel being used and keeps down the pollutant emissions. Part of the secondary air flows along the viewing window and acts as glass flushing air (air wash system) and therefore allows you to enjoy the interplay of the flames.
The secondary air is controlled by the secondary air slider below the firebox door (Figure 29). Moving the slider towards setting 0 (towards the oven), reduces the incoming secondary air flow; moving it towards setting 1 increases it.
For "Air settings / Amount of fuel to be added" see page 17.

Grate riddling (LHS 60-105)

The grate riddling is activated by the button over the firebox door. This ideally takes place before fuel is put in. The ash pan should be emptied regularly; the grate should be cleaned thoroughly 1 –2 times a week (*Figure 30*).

Ash door protection

A latch, ensuring that the ash door can only be opened together with the heating door, is provided on the ash door inside. This serves to prevent inadvertent overheating of the stove (*Figure 31*).



Prerequisites for efficient combustion

- Sufficient amount of combustible material
- Oxidising agent, mostly oxygen
- Enough heat to reach the ignition temperature or to maintain the minimum temperature required for combustion
- The correct proportion of the combustible material to ambient air or to the reactive gas

The combustion process

The combustion process takes place in three stages:

1. DRYING STAGE

In this stage all the moisture still in the wood is evaporated. This occurs at temperatures of approx. 100 °C. During pre-ignition, the wood must be supplied with heat (using small pieces of firewood). When it dries, the firewood shrinks until cracks are formed which accelerate the drying process.

2. DEGASIFICATION STAGE

After the drying process, with temperatures rising from 100 to approx. 300 °C, the degasification of the wood starts. High-energy, combustible gases, consisting of various chemical components, are released (hydrocarbons). The burn-off of these volatile components, which account for about 80 % of the wood, is recognisable from the long yellow flames that shoot up from the wood. The real combustion process begins with the ignition of the gases that are produced at about 225 °C (ignition temperature) and with the release of heat. For this to happen, enough oxygen must also be supplied. The final stage of the combustion is reached at about 300 °C. Now the greatest amount of heat is released, with flame temperatures of up to 1100 °C.

3. BURN-OUT STAGE

After the volatile components have been burnt-off, the charcoal begins to burn and is degasified at temperatures of about 500 to 800 °C without forming soot. This process can be recognised by the short, translucent small flames. All three stages can occur at the same time from the inside to the outside of a piece of wood.

Clean combustion

The first prerequisite for keeping pollutant emissions as low as possible is that only dry wood is used.
The heating-up phase, which produces significant quantities of decomposition products, must be completed as fast as possible by using small pieces of kindling wood in order to reach the high temperatures quickly.
Reducing the air supply during the degasification stage has a detrimental effect as the wood degasification continues even without further supply of air and without flames (smouldering). As a result large amounts of the substance of the wood can be expelled without generating heat and are released into the environment without having been being burnt-off or deposits such as tar and soot are formed on the walls of the combustion chamber and in the flue gas pipes. Even during the burn-off phase the air supply must not be restricted completely as this would create the hazard of carbon monoxide fumes.
When continuing the heating process, make sure that not too much wood is added. The amount of wood should always match the heat requirements.

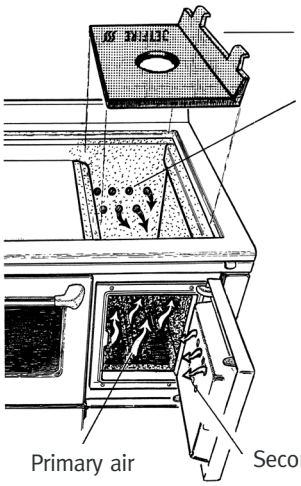


Figure 32

JET|FIRE-Flame Convergence Plate

The JET|FIRE Flame convergence plate, which serves as a cover for the combustion chamber (*Figure 32*), in conjunction with the pre-heated secondary air supply through the firebox door, results in a higher combustion temperature and thus in a less polluting and more effective combustion.
The flame convergence plate, like the stove itself, should be cleaned of combustion residues from time to time. Make sure that the flame convergence plate is replaced in the correct position.

15. Fuels

Figure 33

Storage of wood	moisture content %	calorific value kWh/kg
green wood	50	~2,3
stored for one winter	40	~2,7
stored for one summer	18-25	~3,4
air dried	15-20	~4,2

Table 1

Failure to observe these instructions will invalidate any warranty

Suitable fuels

FIREWOOD (LOGS)

Billet wood should have a maximum water content of approximately 30 % of the dried weight, be approximately 1/3 m long and be chopped small. In this way the billets are ignited rapidly, producing a better heat output than larger wood billets for the same amount of wood. Undercover in the open, fir, pine or alder wood should be stored a good 2 years, hard wood even 3 years.

The significance of the water content of wood on the calorific value is shown in *Table 1*

Unsuitable fuels

Moist wood, bark waste, sawdust, fine wood chips. Brushwood, wood wool, wood chips. Use only very small amounts of paper for lighting.
Burning such fuels generates high levels of pollutant emission, a lot of ash while the calorific value is very low.

Prohibited fuels

Surface-treated wood (veneered, painted, impregnated, etc.), chipboard wood, all types of waste (packaging waste), plastics, newspapers, rubber, leather, textiles, etc. Burning such materials will greatly pollute the environment and is prohibited by the legislator.
It can also damage the stove and chimney.

16. Start-up

After completion of the assembly and connecting work and prior to the first start-up, a few actions are still required:

- Steel cooking plate: ensure a 2 mm gap all round the stove frame to prevent a discoloration of the stainless stove frame when heating!
- Open heating and ash door, pull out ash drawer and remove all-purpose wrench.
- Wipe off the corrosion protection applied to the steel cooking plate (see Page 19)
- To ensure an optimum combustion process, oxygen-rich air is essential. Therefore provide the room with good ventilation prior to heating.
- With stoves featuring a central heating insert, make sure that the heating appliance is ready for use before each start-up (water level, water pressure, temperature, controls, safety devices, etc.).

After you have familiarised yourself with the operating procedures for the stove, the first start-up can begin.

Initial heating

Close the heating damper after approximately 15 minutes.

To prevent flue gases escaping, keep the door of the combustion chamber closed at all times except when lighting a fire, re-fuelling or removing ashes.

- Open the start-up flap, turn the knob for the primary air to position 6 and fully open the slider for the secondary air.
- Open the firebox door
- Put 2 small pieces of firewood onto the grate
- Stack 2 wood billets on top. Put some wood wool on top, ignite it and subsequently place a medium-sized wood billet on top..
- Close heating door and allow wood to develop a lively fire.

Adding Fuel

After the initial heating phase, add more fuel as per Table (see air settings).

- Turn primary air supply to position 1.
- Adjust secondary air supply for the required heat output.

When adding fuel we recommend:

- Short intervals (every 30-50 minutes)
- 2-3 small pieces of firewood (approx. 1-2 kg)

Air supply settings

Table 2 shows the recommended settings for the air supply (after the operating temperature has been reached). The indicated values for the settings are approximate values. The setting of the air slider that suits the heating requirements of the room is established by experimenting.
See Table 3 to learn more about the recommended amount of firewood to be added and burning times.

Type of fuel	Rated heat output (~12 Pa)	
	Primary air	Secondary air
spruce wood	3	1/2 open
Beech wood	3	1/2 open

Table 2

Type of fuel / Mode of firing	Adding of fuel	Burning time
Beech wood / shallow firing	ca. 2 kg (2-3 pieces of firewood)	ca. 60 min.

Table 3

Heating

When only embers are left on the grate, new fuel should be added evenly ove the whole grate. To do so, spread the embers evenly over the grate and then more fuel can be placed on top.

Fuel filling level

Please note that your stove should only be filled up to the secondary air vents at the side walls and the rear wall of the combustion chamber and not above the air vents of the upright grate behind the combustion chamber door, as this would obstruct the air flow in the combustion chamber. On stoves with viewing windows this will result in soot deposits and darkening of the glass (ceramification, not covered by warranty). In any case, this will lead to incomplete and inefficient combustion and subsequently to **low efficiency** with all appliances.

Cooking

Cooking is best done on a hot but not red-hot stove plate. Overheating means wasting of fuel. The highest stove plate temperature is present in the heating area (above the JET|FIRE flame concentration plate), this area is therefore ideally suited for rapid initial cooking.
The edge zones with lower temperatures can be used for slow cooking or keeping warm. You are best advised to use pots with thick, level base and fitting lid.

Baking and Roasting

For baking and roasting, evenly distributed heat is needed. To achieve this evenness and a high enough temperature, the oven must be preheated to the temperature that suits the food to be baked, with the start-up flap closed. When the oven has reached the required temperature put the items to be baked inside. However, do not let the fire burn too fiercely; only add fuel in small quantities. The desired temperature in the oven can be achieved by adjusting the supply of the combustion air (secondary and primary air regulator). Place high cake tins on the rack in the bottom groove. Cakes in tins can be baked at a moderate heat (180 – 200º). A baking tray with flat cakes or biscuits can be put in using either of the grooves. In this case increasing the heat to 200 - 220º is recommended. For roasting much higher temperatures are needed, preheating is essential.

Heating in between seasons

When outdoor temperatures are above 15 °C, it may occur that due to low chimney draught the fire does not burn very well. This will result in an increased build-up of soot in the flue passages of the appliance and in the chimney.

To reduce the build-up of soot when heating in between seasons, increase the primary air supply, poke the fire more often and add fuel more frequently (smaller pieces of wood).

17. Maintenance and Cleaning

Have your fireplace inspected by a specialist (LOHBERGER customer service, chimney sweep) at regular intervals.

Regular maintenance and care or cleaning of the appliance, the flue gas ducts, the connecting piece and the chimney are particularly important for the operational safety, efficiency and maintaining the value of the appliance.
A thorough cleaning should be performed after each heating period and after a long period of non-use (see **Important instructions**, *page 4*). When used frequently
or when using poor-quality fuels, correspondingly more often.

- Remove cooking plate and clean it, in particular the underside. With glass ceramic hobs, clean the bottom with a hand brush, and for steel cooking plates use a wire brush.
- Remove the grate and brush it. Clear out clogged grate slits.
- Remove and sweep flue gas pipe(s).
- Clean combustion chamber walls and flue gas ducts with the ash shovel.
- Brush start-up flap and fixture and check that it operates correctly.
- Remove ash pan and empty it. Sweep the ash pan enclosure.
- Use the ash shovel to clean the flue gas ducts accessible after removing the cleaning cover.
- Check the sealing cords of the cooking plate and of the cleaning cover; replace them if required.
- Clear the secondary air vents of the protective plate of the firebox door using a wire brush.
- When cleaning chrome, anodised or enamel surfaces, use only gentle (non-alkaline) cleaning agents and no abrasive cleaning tools. The same applies to cleaning the oven.
- When reinstalling the various appliance components (flue gas pipe, cooking plate, grate, cleaning cover, ash pan) ensure they are correctly positioned and function as required and / or that there are no leaks.
- When positioning the cooking plate, make sure there is a 2 mm wide gap to the stove frame all round.

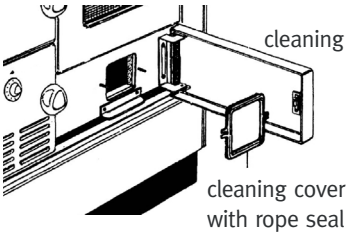


Figure 34

Cleaning opening (only LHS 60-105)

The cleaning door panel is secured by a ball catch and swivels open (*Figure 34*). The cleaning cover behind it is attached to the stove front with 2 wing nuts and should be removed to clean the flue gas ducts. Before replacing the cover, check the rope seal of the cleaning cover for tightness and replace it if necessary.

Using a vacuum cleaner

Das Gerät völlig auskühlen lassen und Staubsauger nur mit einer » Ash Box « Allow the appliance to cool down completely and only use a vacuum cleaner with an “Ash Box” accessory – FIRE HAZARD.

Cleaning the connecting piece

Take out the cooking plate and clean the exhaust gas pipe connection and the connecting piece with a suitable brush or use the vacuum cleaner (only with an “Ash Box” accessory – fire hazard). Provide cleaning openings for long connecting pieces and angled pieces.

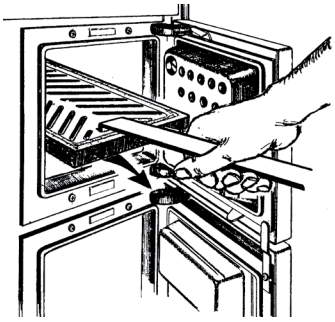


Figure 35

Grate

The ash is quite easily removed from the grate using the grate shaker. However if the air slits are severely clogged by slag, crusts or other combustion residue, completely remove the grate and clean. To do so, open the heating door and pull the grate through the heating door. (*Figure 35*).
After cleaning, slide the grate through the heating door against the rear refractory brick, lower at the back and push back against the stop once more. Operate grate shaker.

The ash can still contain live embers: Dispose of the ash only into metal canisters.

Ash pan

Empty the ash pan at regular intervals and early enough. The pile of ash must not obstruct the primary air vents in the grate.

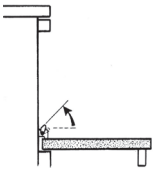
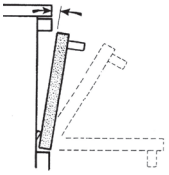


Figure 36



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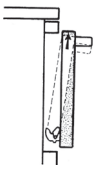


Figure 38

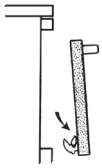


Figure 39

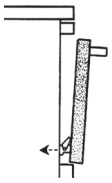


Figure 40

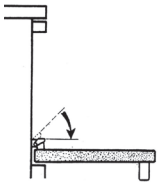
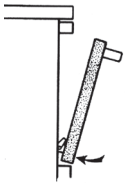


Figure 41



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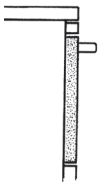


Figure 43

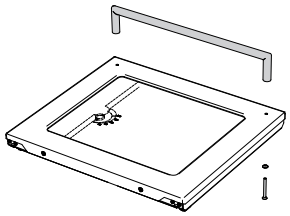


Figure 44

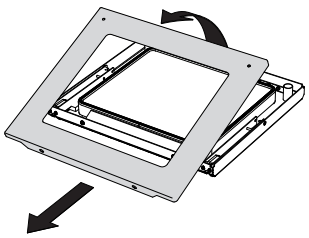


Figure 45

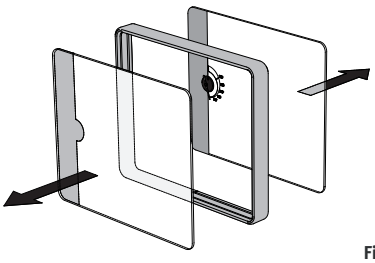


Figure 46

Oven door

The oven door can be completely removed. This is advantageous for a thorough cleaning of the oven.
To cool the oven, the door can be set at a 75-degree angle. To do this, open the door, push the metal clips on the door hinges upwards and close the door to the limit stop.

Unhinging the Oven Door

- Open the oven door and push up the clips (*Figure 36*).
- Close oven door to 5mm (*Figure 37*)
- Lift slightly from this position (*Figure 38*).
- and pull away and down (*Figure 39*).

Hanging the Oven Door Back on its Hinges

- Insert the hinges into the appropriate openings (*Figure 40*).
- Open the door slowly and press the clips shut (*Figure 41*).
- Arrest with a jerk (*Figure 42*).
- Close the door and check the correct fit! (*Figure 43*).

Cleaning the glass viewing window of the oven

If the appliance is overheated or if a gasket is damaged, the inside of the glass viewing window of the oven may become fogged. To clean it, please proceed as follows:

- Remove oven door as described and place it on a clean surface, undo the handle screws (2x) and remove the oven door handle (*Figure 44*).
- Swivel open the oven door panel on the handle side and move it forwards to remove it (*Figure 45*).
- Remove the viewing window glazing unit and the silicone gasket (*Figure 46*).

CAUTION: Remember the correct position of the silicone gasket

- Carefully clean the glass. To do so, use gentle cleaning agents (e.g. soapy water) and a soft cloth.
- Reassemble the parts in reverse order.

Cleaning the glass viewing window of the combustion chamber

To clean the glass viewing window use gentle cleaning agents (e.g. soapy water) and a soft cloth.

In adverse weather conditions or as a result of incorrect operation or the use of unsuitable fuels the inside of the combustion chamber window may become fogged. For cleaning, please proceed as follows:

- Open the combustion chamber door.
- Undo the 2 Stück slotted screw on the cast fastener
- Remove the ast fastener carefully.

Assembly

- Reassemble the parts in reverse order.
- Reinstall the complete glazing unit in reverse order to the disassembly..

- Never use abrasive or harsh cleaning agents such as grill and oven sprays, stain and rust remover, scouring powder, sponges with abrasive surface.
- Scratches can also arise when for instance grains of sand from the cleaning of vegetables are dragged over the cooking surface with the pot.
- The bases of pots and pans can have edges and burrs, which can leave unsightly traces when pushed around or have an abrasive effect on the glass ceramic surface. This applies particularly to cast iron cooking utensils and enamel pots.
- Always place the pots on the stove with the base clean and dry. Avoid enamel cooking ware becoming dry during cooking.
- Do not use (usually too soft) aluminium pots and pans on your glass ceramic cooking panel. As the glass ceramic is significantly harder than most aluminium alloys, this cookware could leave unsightly traces on the glass ceramic surface which can be virtually unremovable once they have become burnt-in.
- Keep away from the hot cooking surface any items that can melt, e.g. plastics, aluminium foil, and in particular sugar and food with a high sugar content.
- If anything has accidentally burnt in on the cooking surface, it must be removed immediately (while hot) with the razor blade scraper to avoid surface damage.
- Damage through sugar or food containing sugar can be prevented in advance by cleaning your glass ceramic cooking surface with Ceran® fix or Collo Profi, either always or before preparing food with a high sugar content . These agents form a silicone film on the glass ceramic cooking surface which not only protects but also makes your cooking surface even “smoother”, giving a water repellent and dirt deflecting quality. However, the silicone film is not resistant to high temperatures such as occur in the cooking zones and must be always reapplied.

Stoves with glass ceramic cooking surfaces

WHAT IS CERAN® ?

Glass ceramic cooking surfaces by the Mainz-based company SCHOTT (Germany) are extremely temperature-resistant and withstand even abrupt temperature shocks up to 750 °C.
CERAN® is insensitive to normal mechanical loads in the kitchen. The 4 mm thick glass ceramic also transmits heat very well. It allows radiated heat to pass with almost no loss, but hardly conducts any heat to the sides.
CERAN® cooktop panels are easy to clean and allow you to enjoy the beauty of real flames.

CARE AND PRACTICAL TIPS FOR GLASS CERAMIC COOKING PLATES

Clean your glass ceramic cooktop panel thoroughly before initial use, then regularly while it is warm (not hot) or cold. Avoid repeated burning-in of contaminants.

For cleaning we recommend:
- Kitchen paper towels or a clean cloth
- Razor blade scraper (Caution: only for the top. On no account must it be used to remove combustion residue from the (rough) underside of the plate as this would scrape off irregularities – which in turn would result in scratches (“predestined fracture points”).
- Commercially available glass ceramic cleaners.

The degree of contamination determines the choice of cleaning agents:
- Use a moist cloth to wipe off contamination that is not burnt-on.
- All coarse and firmly adhering contamination is easily removed with the razo blade scraper; spots of scale, watermarks, grease splashes and metalliclooking discolorations are best cleaned with commercially available glass ceramic cleaning agents

All traces of cleaning agents must be thoroughly wiped off moist after cleaning (even if their instructions are different), since they could have a corrosive effect when reheated. As a final step, wipe it dry. When correctly used, the glass ceramic
cooking surface will retain its attractive appearance.

WHAT IF...?

... a chemical cleaning agent alone is not sufficient?
Check to see whether the razor blade scraper gets you there much more quickly.

... metallic looking discolorations appear on the cooking zones over time?
These blemishes caused by scratching or baked-on substances cannot be repaired. However it does not impair the serviceability of your stove in any way.

... the surface has scratches or minor chippings?
Diese Schönheitsfehler, durch kratzende oder angeschmolzene Gegenstände verursacht, können nicht behoben werden. Die Funktionstüchtigkeit Ihres Herdes ist in keiner Weise beeinträchtigt.

... dark stains have developed?
If cleaning with the razor blade scraper, Sidol®, alcohol or scouring pads does not yield any improvement, it is probably abrasion of the decoration caused by unsuitable cleaning agents or the scouring action of the bases of pots.

WHERE CAN THE CLEANING AGENTS BE BOUGHT?

Cleaning agents for glass ceramic surfaces are available e.g. in department stores (electrical appliance section), electrical appliance shops, chemist’s shops, supermarkets and in shops specialising in kitchens.

Steel Cooking Plate

DIRECTIONS FOR THE CARE AND PROTECTION OF THE STEEL COOKING PLATE

The bright polished steel cooking plate was oiled before packing for protection from corrosion.

First Heating

Vor der ersten Inbetriebnahme ist der aufgetragene Korrosionsschutz von der Before heating for the first time, wipe the corrosion protection off the cooking plate. Open a window during the first heating, as the corrosion protection produces an unpleasant but harmless smoke and odour for a short time.
At the same time, a discoloration typical for steel when subjected to heat occurs on the cooking plate in the region from the hottest area to the edge. This discoloration will become more uniform every time the cooking plate is heated again.

Cleaning

The best time to clean the cooking plate is when it is still warm after heating. It can be cleaned with standard scouring agents in powder or liquid form. Stubborn baked-on residues can be removed with the cleaning fleece provided (caution: pay attention to the direction of the polish lines of the steel cooking plate; not suitable for glass ceramic surfaces, enamel or plastics).
Afterwards, wipe the cooking plate with a damp cloth and let it dry. This is, of course, quickest while the stove is still warm. Finally, grease lightly with acid-free oil (e.g. sewing machine oil, gun oil or margarine). Do not leave any pots or pans standing on the cold cooking plate as this would lead to rust stains that are difficult to remove.

Protection against corrosion

If the stove is left unused for an extended period of time, it is advisable to grease the cooking plate with acid-free oil or some margarine after cleaning. It goes without saying that it should be wiped off the cooking plate again before the next use.
By following these instructions, you will prevent the formation of rust and the development of unsightly spots on the cooking plate, and the stove will keep its good appearance.
Take care that the expansion gaps of the steel cooking plate are always kept free of deposit build-ups, so that the plate can expand when subjected to heat. Burned-on food or fuel residues in the gaps can cause the steel cooking plate to warp.

Damage caused by improper cleaning are not covered by the warranty!

18. Troubleshooting

A combination of factors is a prerequisite for ensuring a trouble-free operation of the stove:
Stove: Correct assembly, connection and start-up.
Handling and Care: Regular cleaning of the stove, flue pipe and chimney according to the instructions in the operating manual.
Chimney: Correct dimensions, flawless condition.
Fuel: Use of the recommended types of fuel of an adequate quality and dryness.
Weather conditions: No downdraft in the chimney.
The following list contains possible problems and their causes, helping you to find solutions to remedy them:

Problem	Possible cause	Solution
Grate riddling is jammed.	Ash or combustion residues are jammed between the grate and the grate bracket.	Clear the grate using the ash stoker, clean grate and combustion chamber
	Ash pan overflowing, ash is piled up to the grate	Empty ash pan, clean the firebox and ash pan enclosure.
	The grate is not in its correct position.	See grate on page 18.
Smoke escapes during heating up or when heating	Chimney still cold or stale air in the chimney.	Light ball of paper in the stove or in the chimney and allow it to burn out.
	Chimney draught too low.	Have the chimney dimensions assessed by a qualified chimney sweep (if necessary install a chimney draught inducer blower).
	The fuel used is too smoky, moist or of poor quality.	See fuels on page 16.
	Flue gas ducts, connecting pipes or chimney excessively sooty or blocked.	As soon as possible, thoroughly clean the stove and the connecting ducts; have the chimney swept.
	Start-up flap is not open.	Open start-up flap.
	Extractor hood is in operation.	Reduce the speed of the extractor hood. Provide sufficient supply of outside air by opening windows or doors.
	Insufficient combustion air (fresh air) from outside	Open windows or doors to ensure sufficient supply of outside air.
Discolorations on the stove frame or on the panels and handles	Chimney draught too high	Have the chimney dimensions assessed by a qualified chimney sweep.
Cooking plate warped	Excessive chimney draught.	Have the stove plate aligned or replaced. Seek the advice of your chimney sweep, if necessary install a damper
Stove frame or stainless steel components discoloured		Clean surfaces; seek the advice of your chimney sweep, if necessary install a damper.
Oven distorts, enamel cracks		Minor enamel damage does not impair the functionality. If there is significant chipping, contact customer service; consult the chimney sweep, if necessary install a damper.
Oven glass viewing window becomes cloudy		Clean glass viewing window or replace it; consult your chimney sweep, if necessary install a damper.
Temperature too low (stove fails to heat properly)	When adjusting the flue gas connection the original opening was not sealed or not sealed correctly.	Screw on the galvanized covering plate firmly.
	Incorrect air setting (too low, not suitable for the fuel used)	See Table “Air supply settings” on page 17.
	Fuel used is incorrect, too moist or inferior quality.	See Fuels on page 16.
	Chimney draught too low, often weather-induced, stale air in the chimney.	Have the chimney assessed by a qualified chimney sweep with regard to dimensioning, condition and leaks.
	Leaks in the connection between stove and chimney, wall duct not cleanly incorporated into the chimney, chimney cleaning door leaks;	Loosen the connection, remove loose masonry, neatly brick the wall duct in the chimney, fit the connecting pipes with sealing cord in the wall duct, seal the chimney cleaning door (see flue pipe connection page 10).
	Connecting pipes are not squarely or insufficiently pushed together	Loosen the connection and install neatly aligned and properly pushed together.
	Stove, connecting pipes or chimney severely sooted-up or blocked.	Thoroughly clean combustion chamber, ash space, flue gas ducts and connecting pipes. Have chimney swept.
	Open cleaning cover opening (cover not screwed back on after last cleaning)	Screw cleaning cover back on.
	Steel cooking plate is not correctly positioned	Correctly position steel cooking plate – make sure that there is a 2 mm gap to the stove frame all round.
	Output controller faulty	Replace the faulty output controller.
	Insufficient combustion air (fresh air) from outside	Open windows or doors to ensure the necessary air supply from the outside.

Temperature too high (hazard from overheating)	Incorrect air setting (air setting too high, not matched to the fuel used).	See table “Air supply settings” on page 17.
	Firebox and ash door open.	Close the doors immediately.
	Excessive chimney draught.	Seek the advice of your chimney sweep, if necessary install a damper.
	Output controller on the ash door faulty or controller flap jammed.	Replace the faulty output controller or clean the ash door.
	Incorrect fuel in use	See fuels on page 16.
Steel cooking plate becomes rusty	Moisture in the room air may be the reason for a light rust film over the entire cooking surface (steam from the water boiler, cooking vapour)	Sand down the surface and treat with non-acidic grease. Damp-clean only when it is still warm.
	Rust stains, rust rings are caused by pots boiling over, food remains, wet cookware etc.	After cooking, wipe and treat the cooking surface, rub off rust stains. Do not use the cooking surface as a storage area. See “Stoves with steel cooking plate” on page 21.
Oven fails to heat up	Start-up flap is open.	Close start-up flap.
	Incorrect chimney draught.	Contact your chimney sweep.
	Output controller faulty	Replace output controller.
Oven viewing glass becomes cloudy.	Stove overheating	See fault indication “Excessive temperature”, take out oven door, remove viewing glass, remove frame gasket, clean viewing glass.
	Faulty gasket.	Replace complete frame gasket or viewing glass unit.

19. After-sales service / How to order spare parts

AUSTRIA (Centrale)
LOHBERGER Heiz u. Kochgeräte Technologie GmbH
Landstraße 19
5231 Schalchen
Telefone: 07742/ 5211-199
Fax: 07742/ 58765-199
E-Mail: service@lohberger.com

Please note

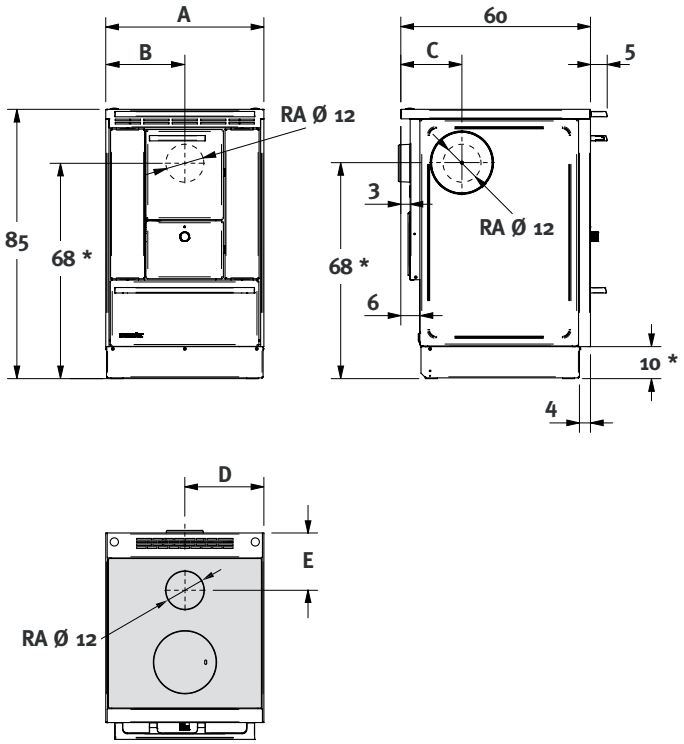
To enable our customer service to deal with repairs and supply spare parts quickly and to your satisfaction, we require the following information with your service request:

- Your correct address
- Your telephone and fax number or email address (if available)
- The exact appliance designation (see nameplate)
- When can our customer service call on you?
- The purchase date
- An exact description of the problem or the type of service you are requesting
- Please have your invoice ready at hand

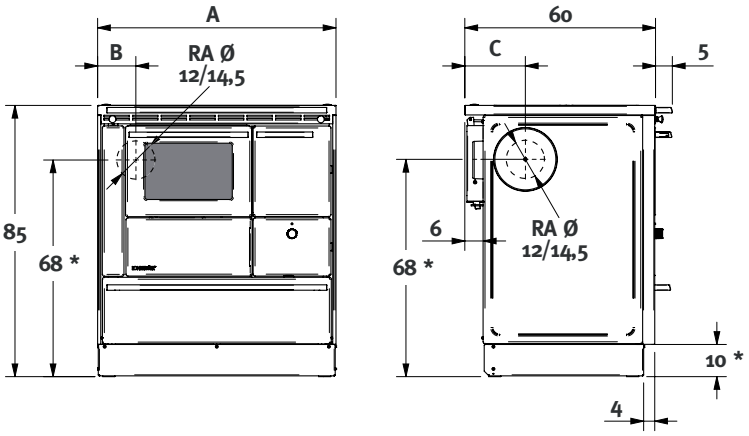
In this way you help us to save time and money and also to serve you more efficiently.

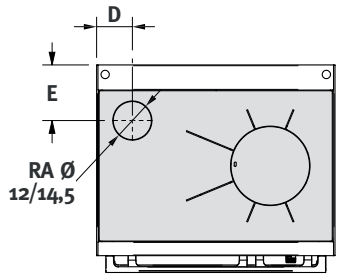
20. Appliance Dimensions

LHS 40/50



LHS 60-105





(Dimensions in cm)

			LHS 40	LHS 50	LHS 60	LHS 75	LHS 90	LHS 105
Width		A	40	50	60	75	90	105
Flue connection rear	Clearance to side	B	20	25	12	12	11	12
Flue connection lateral	Clerance to wall	C	19	19	19	19	19	19,5
Flue connection top	Clearance to side	D	20	25	11,5	11,5	10	12,5
	Clerance to wall	E	18	18	17,5	17,5	17,5	17
Flue connection diameter		RA	12	12	12	12	12	14,5

* Flue pipe connection height based on a stove height of 85 cm!

21. Technical Data

			LHS 40	LHS 50	LHS 60	LHS 75	LHS 90	LHS 105
Appliance dimensions	width x height x depth	cm	40 x 85 x 60	50 x 85 x 60	60 x 85 x 60	75 x 85 x 60	90 x 85 x 60	105 x 85 x 60
Filling door opening	width x height	cm	18,9 x 13,6	18,9 x 13,6	14,3 x 13,6	18,9 x 13,6	18,9 x 13,6	18,9 x 13,6
Filling space	width xheight x depth	cm	15,7 x 20 x 39	15,7 x 20 x 39	15,7 x 20 x 39	20,3 x 20 x 39	20,3 x 20 x 39	20,3 x 20 x 39
	capacity	litre	12,5	12,5	12,1	15,6	15,6	15,6
	Fuel filling height	cm			15	15	15	15
Oven	width x height x depth	cm	-	-	25 x 22 x 43,5	32,5 x 22 x 43,5	32,5 x 22 x 43,5	40 x 22 x 43,5
Cooking surface	width x depth	cm	38,4 x 47,3	48,4 x 47,3	58,7 x 47,3	73,4 x 47,3	88,4 x 47,3	103,4 x 47,3
	area	m^2	0,18	0,23	0,27	0,34	0,42	0,49
Hot water insert (on request)	content	litre	-	-		-	12	16
Boiler (on request)	content	litre	-	-		-	12	16
Ash drawer	stove	litre	6	6	5	6	6	6
Fuel drawer	stove	litre	20	20	36	46	56	66
Baking sheet	width x depth	cm	-	-	24,6 x 37	32,2 x 41	32,2 x 41	40 x 42
Grid	width x depth	cm	-	-	24,7 x 41,5	32,3 x 41,5	32,3 x 41,5	40 x 40
Weight	stove without planking	kg	105	112	165	190	212	235
Central-heating insert *	water content	litre				6	6	6
Max. operating pressure *		bar	-	-		3	3	3
Max. operating temperature*		°C	-	-		95	95	95

Performance data:

Data for chimney calculation (according to DIN 4705)

Total heating output	wood	kW	4,5	4,5	7,1	7,5	8,0	8,0
Heating output *	room heating	kW	-	-	-	2,5	3,0	3,0
	water heating	kW	-	-	-	5	5	5
Flue gas temperature	wood	°C	295	295	230	240	240	240
Flue gas mass flow	wood	g/s	5	5	5	9	9	9
Necessary delivery pressure	at NWL	Pa	11	11	12	12	12	12

* ... these specifications apply to stoves with integrated central heating unit (type designation –Z, optional equipment)

Table 4

22. Type testing

The appliance is in conformance with the emission values according to art.15a B-VG (Austrian law) for protective measures and energy saving. Furthermore, amongst others the following exhaust gas limits according to the following German standards are complied with: Regensburger Norm, Stuttgarter Norm and Münchner Verordnung.

The Lohberger Pellet module was successfully tested by the Technical University of Vienna according to the current European Standards.
TGM Test report number: VA HL 7462 u. VA HL 7482

23. Warranty

These warranty conditions are valid in all European countries where LOHBERGER appliances are sold by local specialist dealers. Warranty claims must always be directed to a local LOHBERGER specialist dealer or the dealer from whom you have bought the appliance.

WARRANTY

LOHBERGER grants a 3-year full warranty on verifiable defects in material or workmanship. Warranty claims will not be accepted in any case after five years following the manufacture of the appliance. Certain restrictions apply to some models and parts: for appliances with central heating insert the warranty depends either on correct specialist installation of a return flow temperature boost or the installation of a control cabinet (AME.4).

Exceptions

The warranty does not apply to the normal wear and tear on an appliance used for heating. These parts include for instance: **Fireclay** - Changes in colour or expansion cracks due to the heating process can never be completely ruled out. However, they do not impair the functioning of the appliance as long as the fireclay remains in the firebox.
Glass panes (breakage of glass because of external action, changes on the surface due to thermal influences such as partly sintered fly ash or soot on the surface of the glass front)
Discolouring of paint due to overload or thermal stress
Seals (e.g. hardening or breakage due to thermal or mechanical stress)
Surface coatings (frequent cleaning or cleaning with abrasive cleaning agents)
Cast iron parts (Cast parts subjected to high thermal load such as JETFIRE flame convergence plate and grate)
Pellets - Conveying device Tilting grate, ignition element and temperature sensor of the Lohberger pellet module

START OF WARRANTY

The start of warranty is the time the appliance is handed over to the user. Please keep this user manual as well as the warranty card with the invoice in a safe place at all times. A prerequisite of our warranty obligation is that the appliance has been installed and connected according to our instructions and the applicable EN/DIN /Austrian standards and that it has been operated and correctly maintained according to our instructions.

REPAIRS

We will carefully check your appliance and establish whether the warranty claim is justified. If yes, we will decide in which way the defect should be corrected. In the event of a repair we will have it carried out correctly and competently on location or in our works. This does not affect the start of the warranty determined by the handover; if it is necessary to replace the appliance, the warranty period starts anew. If you send in your appliance for repair please enclose the proof of purchase.

COSTS

LOHBERGER accepts all costs for the duration of the warranty. Should we decide that your appliance is best repaired in our works, you will bear the transport costs and assume the responsibility for the transport.

LIABILITY EXCLUSION

We cannot accept any liability for the loss or the damage of an appliance through theft, fire, vandalism or similar causes. Indirect or direct damages caused by a supplied appliance or arising from the delivery of an appliance are excluded from the liability unless the delivery was performed by LOHBERGER or by a transport company commissioned by LOHBERGER.
We cannot assume any liability for damages caused by chemical or electrochemical effects (e.g. pollutants in the combustion air, condition of heating water not in compliance with the VDI guidelines – e.g.: “calcification”, etc.) or as a result of installation not in accordance with the technical regulations or the LOHBERGER documentation.
We will accept liability for visible paint and enamel damages that can be attributed to manufacturing defects only if such defects are brought to our attention in writing within 14 days following the handover of the appliance.

Modifications of the appliance or tampering by persons who are not authorised by us will invalidate our warranty obligation. Adjustment and conversion work are subject to billing.

Slight variations in colour due to printing process. Subject to technical alteration, misprints and changes to dimensions.

LOHBERGER®

Natural Heating. Naturally Lohberger.

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